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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/326,214 | 06/03/1999 | OSAMU TANITSU | 103512.99 | 3924 |

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

MATHEWS, ALAN A

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| ART UNIT | PAPER NUMBER |
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2851

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/326,214

Applicant(s)

TANITSU ET AL.

Examiner

Alan A. Mathews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-42 and 84-104 is/are allowed.
- 6) ☒ Claim(s) 43-48, 54-57, 64-68 and 76-83 is/are rejected.
- 7) ☒ Claim(s) 49-53, 58-63 and 69-75 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/147,259; 08/365,532.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>15</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 43-48, 54-57, 64-68 and 76-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent document 02-048627 (cited in Applicant's PTO 1449) in view of Nishi (U. S. Patent No. 5,194,893). The Japanese patent document 02-048627 discloses in figure 1 a square optical integrator 20 which is of the internal reflection type (see Abstract and the single paragraph of the partial translation provided in the IDS). A square is simply a one type of rectangle that has equal sides. Thus, the Japanese patent document 02-048627 discloses substantially the invention claimed except for a movable member arranged to relatively move the mask or reticle with respect to the rectangular area during scanning exposure on a substrate. Nishi discloses a fly eye lens 7 and a movable member 14 driven by 51. Lines 3 and 4 of the Abstract and column 5, lines 39-41 of Nishi disclose relative movement of the reticle stage and the substrate stage. Nishi further discloses a blind 10 forming a slit (see column 6, line 58). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the Japanese patent document 02-048627 with a movable member arranged to relatively move a reticle with respect to the

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rectangular area during scanning in view of Nishi for the purpose of improving the scanning exposure. With respect to claims 64-68 and 81-83, figure 4 of Japanese patent document 02-048627 discloses a plurality of light sources, some of which are arranged perpendicular to other sets of lights.

3. Claims 43-48, 54-57, 64-68 and 76-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi (U. S. Patent No. 5,194,893) in view of the Japanese patent document 02-048627. Nishi discloses a fly eye lens 7 and a movable member 14 driven by 51. Lines 3 and 4 of the Abstract and column 5, lines 39-41 of Nishi disclose relative movement of the reticle stage and the substrate stage. Nishi further discloses a blind 10 forming a slit (see column 6, line 58). Thus, Nishi discloses the invention except for providing an internal reflection type integrator. The Japanese patent document 02-048627 discloses in figure 1 a square optical integrator 20 which is of the internal reflection type (see Abstract and the single paragraph of the partial translation provided in the IDS). A square is simply a one type of rectangle that has equal sides. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Nishi with an internal type integrator in view of the Japanese patent document 02-048627 for the purpose of improving the illumination and thus producing a more accurate product (device). With respect to claims 64-68 and 81-83, figure 4 of Japanese patent document 02-048627 discloses a plurality of light sources, some of which are arranged perpendicular to other sets of lights.

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4. Claims 43-48, 54-57, and 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent document 01-311502 (cited in Applicants' PTO-1449) in view of Nishi (U. S. Patent No. 5,194,893). The Japanese patent document 01-311502 discloses in figure 1 a micro lens 17a and a light source 100. A collection of micro lenses 17a would constitute a fly eye lens. As disclosed on page 2, line 5, of the partial translation to the Japanese patent document 01-311502, the lens could be a rectangular lens C. It is further noted that a square is simply a one type of rectangle that has equal sides. Lines 9 and 10 of the partial translation to the Japanese patent document 01-311502 states "Therefore, it is understood that the incident side end surface shape of micro lens 17a may be set in accordance with the shape of the illuminated body." The last paragraph of page 1 of the partial translation to the Japanese patent document 01-311502 further explains in more detail the reference. Thus, the Japanese patent document 01-311502 discloses substantially the invention claimed except for a movable member arranged to relatively move the mask or reticle with respect to the rectangular area during scanning exposure on a substrate. Nishi discloses a fly eye lens 7 and a movable member 14 driven by 51. Lines 3 and 4 of the Abstract and column 5, lines 39-41 of Nishi disclose relative movement of the reticle stage and the substrate stage. Nishi further discloses a blind 10 forming a slit (see column 6, line 58). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the Japanese patent document 01-311502 with a movable member arranged to relatively move a reticle with respect to the rectangular area during scanning in view of Nishi for the purpose of improving the scanning exposure.

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5. Claims 43-48, 54-57, and 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent document 01-259⁵~~8~~33 (cited on Applicant's PTO 1449) in view of Nishi (U. S. Patent No. 5,194,893). The Japanese patent document 01-250333 discloses in figure 1 fly eye lens optical integrators 3 and 5. Figure 4 discloses the square shape of the lens elements. It is noted that a square is simply one type or rectangle that has equal sides. Thus, the Japanese patent document 01-259333 discloses the invention claimed except for a movable member arranged to relatively move the mask or reticle with respect to the rectangular area during scanning exposure on a substrate. Nishi discloses a fly eye lens 7 and a movable member 14 driven by 51. Lines 3 and 4 of the Abstract and column 5, lines 39-41 of Nishi disclose relative movement of the reticle stage and the substrate stage. Nishi further discloses a blind 10 forming a slit (see column 6, line 58). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the Japanese patent document 01-259⁵~~8~~33 with a movable member arranged to relatively move a reticle with respect to the rectangular area during scanning in view of Nishi for the purpose of improving the scanning exposure.

Allowable Subject Matter

6. Claims 1-42 and 84-104 are allowed. Claims 49-53, 58-63, and 69-75 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on December 21, 2001, prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Applicant is reminded that any amendment to the claims must include a supplemental declaration before this application can be allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (703) 308-1706. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 305-3431 for regular communications and 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Alan A. Mathews
Primary Examiner
Art Unit 2851

AAM
September 11, 2002